

**CLAIMS:**

1. A composition comprising at least two separate, reactive components that when mixed together form a reactive resin that undergoes curing, wherein :
  - 5 at least two of the separate, reactive components each includes a filler comprising particles of nanometer scale (“nanofiller”) preferably having a platelet structure (“platelet filler”), dispersed in the component.
- 10 2. The composition according to claim 1 wherein the viscosity of the mixture of the two components is higher than the viscosity of each of the two separate components.
- 15 3. The composition according to any preceding claim wherein the nanofiller has a thickness of less than 5 micron, preferably less than 1 $\mu$ m, such as less 2.5 nm, more preferably less than 1 nm, and most preferably between 0.4-0.8 nm.
- 20 4. The composition according to any preceding claim, wherein the nanofiller has an aspect ratio (length/thickness) higher than 10, more preferably higher than 50 and most preferably higher than 100.
- 25 5. The composition according to any preceding claim, wherein the nanofiller is a modified or unmodified nanoclay, e.g. a natural or modified montmorillonite or bentonite, or a nanocomposite containing such a nanoclay or mica or glass flakes, preferably a nanoclay having ammonium ions, e.g. alkyl quaternary ammonium ions, on the surface.
- 30 6. The composition according to any preceding claim, wherein the amount of the nanofiller present in any one component is less than 80% by weight of the nanofiller content of the final cured resin, more preferably less than 75%, e.g. 60% by weight or less of the total nanofiller content of the final cured resin.
7. The composition of any preceding claim, wherein the amount of the nanofiller present in each component is 0.5 to 10% by weight, more preferably 1 to 7%, e.g. 2 to

4%.

8. The composition of any preceding claim, wherein reactive components form a thermosetting composition, which is preferably selected from one of the following 5 reactive systems:

epoxy/Amine;  
epoxy/Acrylic/Amine;  
isocyanate/Polyol;  
epoxy/isocyanate- polyol/amines;  
10 epoxy/Anhydride; and  
cyclocarbonate/epoxy/amine

9. The composition of any preceding claim, wherein the viscosity of each of the separate components is less than 300,000 Pa s and the viscosity of the resin immediately 15 after thorough mixing of the components exceeds 500,000 Pa s.

10. The composition of any preceding claim, which further includes a filler that interacts with the platelet/nano filler, e.g. calcium carbonate, aluminium trihydrate, talc and/or silicas.

20 11. A composition comprising at least two reactive components that when mixed together form a reactive resin that undergoes curing, which composition comprises: as a curable resin component:

30 to 80%, preferably 40 to 60%, of a curable resin, e.g. an epoxy resin;  
25 0.5 to 5%, preferably 2 to 4%, of a nanofiller preferably having a platelet structure, preferably a platelet fillerfiller having ammonium ions, e.g. alkyl quaternary ammonium ions, on the surfaces of the platelets,  
5 to 40%, preferably 10 to 30%, of a filler that interacts with the the nanofiller, e.g. calcium carbonate, aluminium trihydrate, talc and silicas, and  
30 0 to 50%, of an inert filler, e.g. microballoons or glass beads, and usual additives and as a hardener:

30 to 70%, preferably 40 to 60%, of a hardener for the curable resin, e.g. a compound containing two or more amine groups,  
0.5 to 5%, preferably 2 to 4%, of a nanofiller, preferably of platelet structure, preferably having ammonium ions, e.g. alkyl quaternary ammonium ions, on the  
5 surfaces of the platelets,  
5 to 40%, preferably 10 to 30%, of a filler that interacts with the nanofiller, e.g. calcium carbonate, aluminium trihydrate, talc and silicas, and  
0 to 60%, of an inert filler, e.g. microballoons or glass beads and usual additives.

10 12. Use of a composition as claimed in any preceding claim as adhesives, modelling pastes, coatings, sealants, putties, mastics, stopping compounds, caulking materials, encapsulants or surface coatings, e.g. paints, or in the extrusion or jetting of three dimensional objects by layerwise deposition or in the manufacture of moulds for casting or for injection moulding or in the manufacture of modelling boards.

15 13. Process for making a model or prototype especially an automotive, aerospace, marine or wind turbine model or prototype, comprising  
- applying a modelling paste to a structure, said modelling paste being formed by mixing two or more separate, reactive components wherein at least two separate, reactive  
20 components each includes a filler comprising nanometer scale particles preferably having a platelet structure dispersed in the component.  
- curing the modelling paste in a continuous layer and  
- optionally machining the cured layer of modelling paste to a desired contour.